Innovative use of SMS technology for the excellence in library services in Kerala.

Vimal Kumar V.
Asst. Librarian
Asian School of Business
Thiruvananthapuram

Chitra S.
Officer
Library And Information Centre
Tata Consultancy Services
Thiruvananthapuram

Abstract

Changes in society and technology made variations in the life style of Kerala people and their views and attitude towards libraries. In this situation new means of communication practices are necessary to keep in touch with library users. Mobile technology is feasible in terms of cost and efficiency to meet the communication needs of all types of libraries. SMS can reach large number of library users. This paper aims to signify the application of SMS technology in libraries for the excellence of services offered.

Introduction

SMS stands for Short Message Service. It is a technology that enables the sending and receiving of messages between mobile phones. SMS first appeared in Europe in 1992. Communication via SMS is increasing day by day and extensively making using for send messages for personal, business and other informative purposes. A lot of innovative applications are now built on top of the SMS technology and more are being developed. Libraries in developed countries have begun using SMS to interact with members and utilize to sending alerts and notifications. Sending and receiving messages to individuals and groups are the main advantages of SMS. Often mobile phone carried by the owner most of the time, whenever SMS is received, it will be notified immediately irrespective of the time and location. Kerala is a consumer society and people are very keen to adopt changes in technology. Television, Internet and mobile phone made profound changes in the lifestyle of Kerala people. According to the Cellular Operators Association of India's [1] figures for 2007, Kerala had a total of 765, 2577 subscribers. Kerala state is networked with 6000 public libraries and offers conventional services such as lending and reading room facilities. Considering the present situation of poor infrastructure and lack of professional manpower,   public libraries in Kerala are not in a position to offer value added services

to community. Popularity of mobile phones offers good opportunity for libraries in Kerala to enhance the operations with the use of mobile technology based services.

Application of SMS in libraries

SMS technology is now being used by many libraries to deliver their services more effectively and efficiently. SMS could be used to provide quick, easy access to library services. SMS text messages can be sent to the customers (users of a library) in order to remind them of the overdue books and when it is due. In case they need to renew it, they can send a message for getting it reissued rather than going to the library and renew the books. The users can also be informed of the hold items which are ready to be collected from the library through SMS. They can check the loans and also know of the availability of any particular book by sending sms.

The sms facility can be used as a medium for the communication of reference queries in libraries. It is a form of virtual reference service. The text messaging technology can be used for referral services, to guide the users to the source of information. This is also an effective way of receiving technical support from the library staff such as a problem in accessing databases. For announcing an event taking place in the library, sms facilities can be made use of. This helps to reach out to the users to make them aware of such local functions, which other wise has to be sent via email. SMS technology is a readily accessible alternative to emails and the time lag due to delay in checking mails can be eliminated. By making use of the sms technology, readers can subscribe to receive library notices via email, library newsletters and can also subscribe to online databases. Libraries can broadcast text messages to groups of clients for promoting services such as new databases, extended library opening hours, or a new series of hands-on workshops.

SMS is a cost effective and efficient interactive communication system suitable for libraries other than email. The technology works well if it is used as an interactive two way system. To be more precise, mobile pervasive technology can be used by the libraries to serve their patrons as well as by the patrons to avail of the library services in a better way. In this way, the services offered by the libraries can become more customer-centric.

Viability of SMS services in Kerala libraries

Public libraries in Kerala had contributions in freedom movement and later in social development. Social changes and rapid development of information and communication technology create waves in life style and also changed people's views and attitudes towards public libraries. Globalization and

economic liberalization changed the life style of Kerala society. Telephone, Television, cable TV and Internet revolutionised the life style of both rural and urban people. Competitive labour market and intensive work environment compress people's time for reading, learning, relaxation and community gathering. These factors are capable to think about a new a mean of communication to get in touch with library users.

There has been a tremendous increase in the number of cell phone users in India since the last five years. The cheap rate of mobile handsets, low tariffs and attractive offers put forward by the companies make it easer for the people belonging to all strata of the society to own and use it. The penetration of mobile technology in to various categories of people is evident from the rising rate of users for mobile phones. The mobile companies look forward to an incredible growth in the innovative use of services offered by the mobile technology. The following data has been taken from the website of the Cellular Operators Association of India gives the statistics of mobile users in Kerala since the last five years.

Year	No. of Mobile Users
2003	1023096
2004	1918180
2005	2898599
2006	4883223
2007	7652577

From the data, it is evident that the number of users has increased, rather almost doubled, each year. Focusing on the swift increase in the number of mobile phone users, the viability of SMS services can be envisaged.

No of users

7652577	

1023096
1918180
2898599
4883223
7652577

2003 2004 2005 2006 2007

year
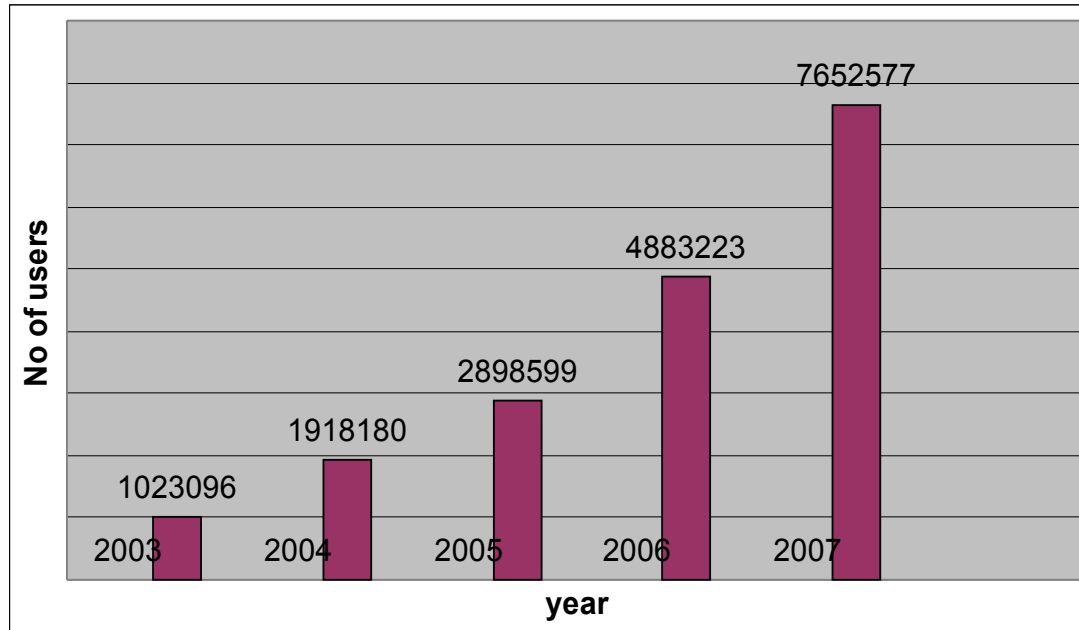
SMS is a mature technology adopted by a significant proportion of the population. The libraries can immediately reach the patrons without requiring patrons to have access to internet. Receiving text based messages via a computer interface is enabled through this invasive technology.

A typical example of deployment of SMS technology for the availability of information in the Government sector is mentioned below.

Kerala IT Mission is planning to provide mobile based governance services across the districts. They are working on several m-Governance projects, but two initiatives are in the development stage. By sending an SMS to a special number, people will be able to obtain information such as the location of various government offices, address of a specific office and so on. In Kozhikode district, the Kerala IT Mission is providing health services with the use of mobile phones.

Yet another example is the "Know your File Status through SMS" launched as part of DC Suite Project in November 2007 in Palakkad district. Anybody who has submitted an application or petition in the collectorate can know the status of their file by sending sms in the format **FN** *file number* to the number 9446065611. The sms will reach the data center at collectorate and the reply will be processed through the sms gateway developed and implemented by NIC.

The mobile phone will be carried by the owner all the time and hence the viability of sms technology in libraries is justifiable. The libraries are always in search of ways to provide new cost effective services to the customers and sms technology is one such initiative. It can be applied in all types of libraries, whether academic or public, and the services offered via sms must be customized according to the nature of users.

Prerequisite of library SMS services

Many free SMS messaging services are available in World Wide Web. Young people extensively make use of those services sending messages to friends. Social network sites (e.g. Twitter, Peekamo) and instant messenger services (e.g. Yahoo, Rediff) allow sending and receiving of free SMS between web and mobile phone. Even though these free services are popular it cannot be applied for library purposes since these services imply some limitations of usage (e.g. sending five messages per day) and their policies of usage may change any time.

Libraries need more powerful and feature rich SMS services to communicate with users. Many commercial service providers offer group SMS services with affordable rates. SMS Gupshup is a free group SMS provider. Free service is offered with the support of revenue from advertisement. They also offer paid ad-free group messaging service. Certain SMS softwares are available for the use of NGO's for community SMS delivery. Frontline SMS is free software enabling users to send and receive text messages with large groups of people through mobile phones. This software is used for non commercial purposes such as emergency alerts, field data collection, conducting public surveys, health care info requests, agricultural price updates, and providing weather updates. Frontline SMS does not require an Internet connection and works with existing plan on all GSM phones [2]. Libraries can also try these cost effective options for SMS services.

Following are possible ways to send SMS from libraries, [3]

1.   Library management software. Certain library systems include the option to automatically send SMS text messages informing clients when a reserved item has been placed on hold for them.
2.   Plug-ins integrated with library email system to enable email to SMS messaging.
3.   Via custom made software
4.   By contracting the service out to an external messaging vendor.

Following are the general prerequisites of library SMS services,

SMS management interface

Various types of interfaces are necessary to manage SMS services. Web interface is convenient for libraries having Internet connection; they send and receive mass messages using SMS. Managing SMS services for website provide wider options for the convenience of creating groups, sending and receiving messages. Academic and special libraries in Kerala are endowed with broadband Internet connection. New generation library management systems offer the feature of sending SMS directly while transactions. Informing users about overdue items, and reservation of books directly from library

management system is one of the easiest approaches. Library management system generates email and sent it using any mail client to the SMTP server at SMS Gateway and for forwarding to mobile phones.

Provision to manage SMS services from mobile phone is necessary for libraries without IT infrastructure. Librarians can manage SMS services from mobile phones using commands. In present situation Internet connectivity is not available with village libraries in Kerala. Computerisation of more village libraries is still under the consideration of Government of Kerala [4].

SMS gateway

Messages sent from libraries reach at users' mobile phone through SMS gateway of service providers. SMS gateways transfer the messages from librarian interface (http connection) to SMS and pass to various mobile service providers. SMS gateways facilitate not only sending of messages to users via web but also receive user responses via SMS. Conducting of user surveys and quiz competition using SMS are also possible with SMS gateways.


SMS gateway
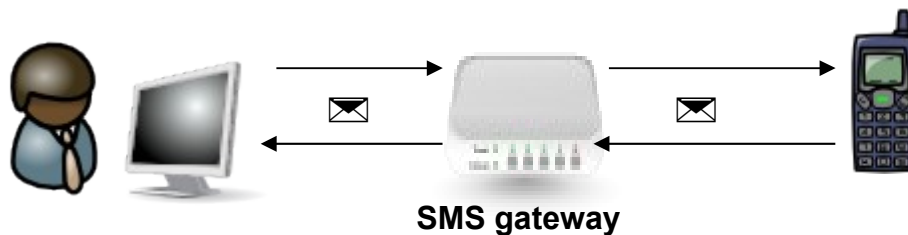
Revenue models

Budget considerations to establish library SMS service include the cost of establishing the infrastructure, monthly maintenance and the additional cost of outgoing SMS messages [5]. SMS in India is now not expensive. Buying SMS from mobile service providers in bulk rate is comparatively more affordable. Revenue models to cover the expenses of library SMS service are necessary. Following are the popular revenue gathering models applicable in commercial SMS service providers, the same can be applied in library environment too. They are

- Ad based SMS messaging
- Share the revenue with partner mobile operator
- Premium services for users
- Annual fees for users and
- Charge for user generated messages

Inserting advertisement in text in the message content is a good option. Business people can advertise for their products and services through SMS from libraries. And it gives the business greater visibility among library community.

Content on demand and reference services through mobile phones are examples of premium library SMS services. "By texting a mobile phone number and a code, clients can receive information on demand, such as stock prices, exchange rates and weather reports" [6]. Various user communities have different information needs and tailoring SMS services in creative manner for them must be innovative.

Generic model for an sms based Information service

Library

SMS Gateway

Users

Service Providers
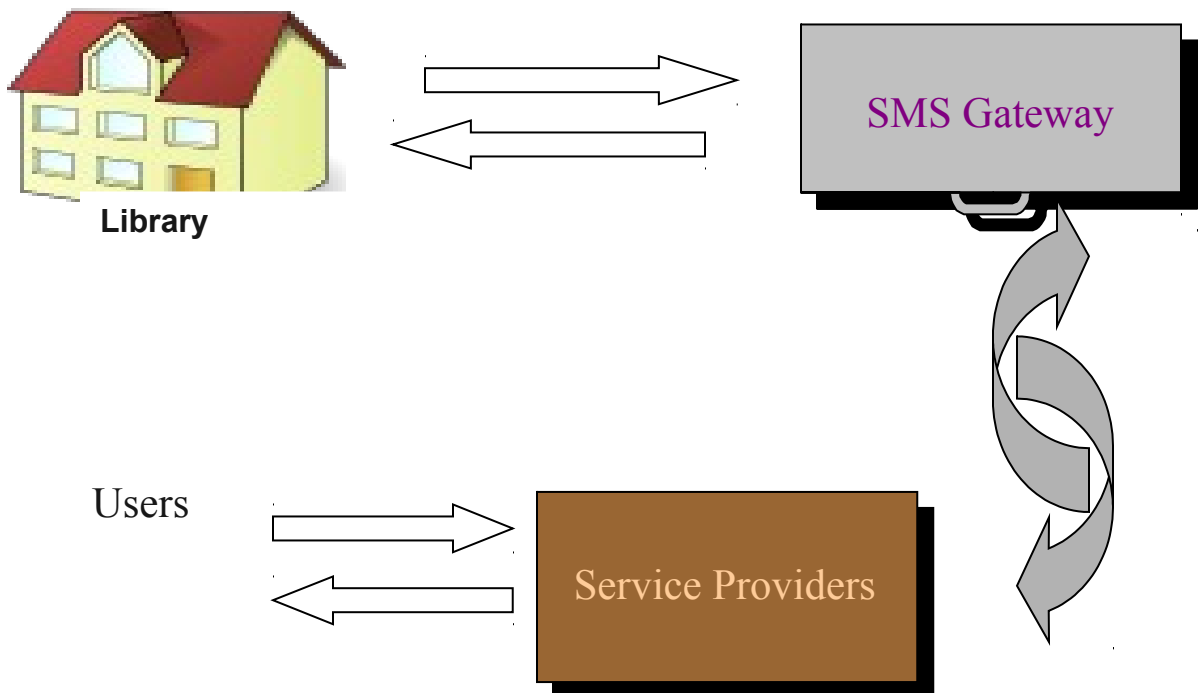
Working procedure of library SMS services

When the users join the library sms service, he will be able to receive the messages instantly. They begin to receive automatic alerts regarding expiry date reminder, over due reminder etc.

Power of SMS lay in its ability to broadcast messages to a group of people. Libraries can create SMS groups to circulate among people having similar interest. Groups to announce job alert, cultural events, health information, etc are examples of add on SMS services for both library users and the whole community. SMS services for exclusive groups seem more useful for public libraries serving rural community. For example, village libraries can cooperate with agricultural agencies to announce seasonal informative tips for farmers regarding use of fertilisers, soil and water management.

Libraries should give substantial publicity about these SMS services among stakeholders. Library websites, information brochures, organizing group meeting and information display at key areas are necessary to attract users to join in SMS groups. Clear and simple procedures are necessary to ensure the involvement of users. Following is the procedure to allow a group for farmers to join the service, send the message JOIN AGRIALERT to the number 3756. Instructions to unsubscribe from groups also must be indicated.
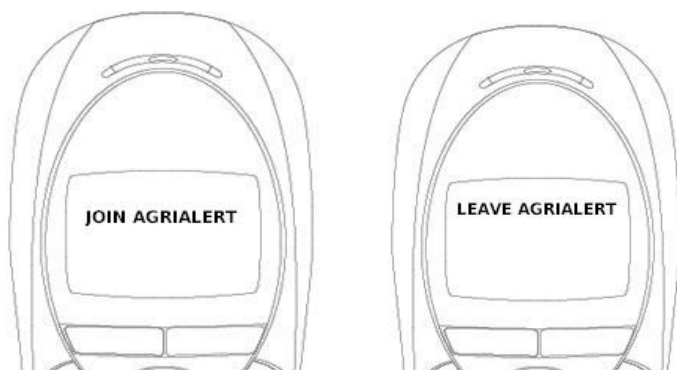
Procedure to join and leave SMS groups

Future of SMS services in libraries

Indian mobile service providers now based on second-generation wireless telephone technology called 2G. Mobile phone operators in India make use GSM and CDMA networks for data transfer and limitations on support multimedia, Internet, send and receive data quickly. Background works for the introduction of third generation wireless telephone (3G) is in progress and may be available in India in 2008 [7]. 3G helps to simultaneously transfer both voice data (a telephone call) and non-voice data (such as downloading information, exchanging e-mail, and instant messaging) [8]. With the advent of 3G spectrum libraries can extend more service points to mobile phone and reducing the dependence on SMS. Then users can access library websites, OPAC, library podcast, searching databases and consultation of online reference services is possible with the support of high speed Internet in mobile phones.

Conclusion

It is a feasible ICT option to use in the field of library and information science. Since sms is a sort of personal contact, the librarians can establish a rapport with their customers even those who do not afford to have a PC or access to internet. The time lag in checking mails can be eliminated except in some cases, when messages may get delayed or fail due to problems with the connections between different carriers. This, in a way help the libraries provide information services outside the traditional realms of the library. Library SMS services are suitable to provide automated responses supporting traditional library functions (e.g. item overdue and hold alert) and announcements (e.g. quotation service). SMS is a low-end service being replaced with new mobile technologies like 3G spectrums [9].

References

1. Statistics, Cellular Operators Association of India, www.coai.in

2. What is FrontlineSMS? http://www.frontlinesms.com/what/

3. Giles, Nicola and Grey-Smith Sue "Txting librarians @ Curtin, Information Online 2005, Sydney, February 2005.

4. 'Internet Connectivity to all A, B grade Libraries', The New Indian Express, Thursday August 7, 2008. Thiruvananthapuram.

5. Giles, Nicola and Grey-Smith Sue "Txting librarians @ Curtin, Information Online 2005, Sydney, February 2005.

6. Ibid.

7. '3G mobile services may be available by mid 2008', Business Line, Friday, Oct 26, 2007.

8. What is 3G spectrum? How does it help you? Rediff Business Desk, September 29, 2006, www.rediff.com/money/2006/sep/29bspec.htm

9. John Iliff, SMS: The Next Killer APP? , PALINET, March 2006.

10. Short Message Service / SMS Tutorial, http://www.developershome.com/sms/smsIntro.asp